CURRICULUM VITAE

Dr. Sachin Subhash Patil , Asst. Prof. – CSE, RIT

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Overview

Objective To crave the stones of core as well as advanced technologies in Computer Science & Engineering and allied areas.

Academic Ph.D. in CSE (Under QIP scheme, Walchand College of Engg. , SU Kolhapur- India).

Technical Proficiency

Languages C, C++, Java, VB 6.0,VB-script, ASP

Platforms Windows, Linux

RDBMS Oracle, SQL Server, MS-Access,Tableau, MongoDB

Softwares/Tools MS Office, Weka, KEEL, Hadoop

Education Qualification

Course	Institute	University/ Board	Year Of Passing	% of Marks	Grade
Ph.D.	WCE, Sangli	Shivaji University, Kolhapur	Dec. 2019	--	--
M.Tech(CST)	Dept. of Technology	Shivaji University, Kolhapur	2010	71.60	Distinction
B.E.(CSE)	TKIET, Warananagar	Shivaji University, Kolhapur.	2003	68.86	First class with Dist.
H.S.C.	VMJC, Islampur	Kolhapur	1999	92.00	First class with Dist.
S.S.C.	Vidyaniketan English School, Rajaramnagar	Kolhapur	1997	71.33	First Class

Ph. D. tentative topic

Title:	**DEVELOPMENT OF ENHANCED TECHNIQUES FOR HANDLING IMBALANCED BIG DATA STREAMS**
Detail:	**Objective** o To study the Map-Reduce framework while pre-processing the input data o To develop and implement enhanced over sampling techniques obliging the binary-class and multi-class Big Data sets o To investigate the effect of intrinsic data characteristics affecting classification performance o To analyze and compare the classification outcomes **Contributions of the Research Work** 1. Six new over sampling techniques: • MEre Mean Minority Over Sampling Technique (MEMMOT) • Minority Majority Mix mean Over Sampling Technique (MMMmOT) • Adjacent_Extreme Mix Neighbors Over Sampling Technique (AEMNOST) • Clustering Minority Examples Over Sampling Technique (CMEOT) • Majority Minority Cluster Based Under_Over Sampling Technique

	(MMCBUOST) and
	• Updated Class Purity Maximization Over Sampling Technique (UCPMOT)
	2. Safe-Level based Synthetic Sample creation (SSS): A data level method
	3. Lowest versus Highest (LVH): A new multi-class management method
	4. New approaches to address various data characteristics affecting the classification performance of imbalanced Big Data sets such as the concept of Pure Learning, elimination of overlapping scenario and better learning from over sampled data sets

Project of M. Tech.

Title:	The Server Reassignment Problem for Load Balancing in Structured P2P Systems
Detail:	The work has achieved the migration-based approach to load balancing in the term of the virtual server (VS), which helps to under load the overloaded physical node by moving portions of the load dynamically. Several objectives of this implementation are achieved as Configuring Service/s, Load distribution using DHT technique for Server Reassignment approach under ASH, DSLS technique. The effect of heterogeneous load on system implementation and cross platform usage is also analyzed. This work demonstrated the VS framework for solving the load balance problem in a structured P2P system. The main contribution is an effective and efficient DSLS algorithm, which leverages work in GAP compared to the M2M algorithm. The comparative analysis is structured with effect to Success ratio performance, Moving Load Analysis and Excess Workload distribution with 99.9^{th} percentile node usage analysis. Also, the contribution is an in-depth analysis of the effect of capacity and workload on algorithm performance, in both homogeneous platform and heterogeneous platform environments. The requirement of such type of implementation for efficient load balance is due to, need of to retain corporate information for both heavy workload and real time usage. The result of implemented task shows that it is possible to reassign the tasks automatically and efficiently by providing DSLS structure.

Experience Details			
College/Institute	**Field**	**Duration**	**Designation**
RIT Rajaramnagar (Diploma Wing)	Teaching	29/8/03 to 30/4/04	Lecturer
RIT Rajaramnagar (Degree Wing)	Teaching	1/7/04 to till date	Asst. Prof.

- **Fields of Specialization under the Subject/ Discipline**
  (a) Java/C/C++ Programming
  (b) Database Engineering
  (c) System Programming
- **Period of teaching experience:**
  (a) P.G. Classes = 10 Year
  (b) U.G. Classes = 18 years

- **Students guided:**
  (a) P.G. projects = 14
  (b) U.G. Project batches = 23

Courses Attended/Organized

Name of the Course/ Summer School	Place	Duration	Sponsoring Agency
Specialized Training on Data Science	iMEET Vishwaniketan Kumbhivali Khallapur	27/12/2016 – 31/12/2016	WCE Sangli
Recent Trends in Machine Learning	WCE Sangli	05/06/2018 – 09/06/2018	WCE Sangli
Intelligence of Things	RIT Rajaramnagar	19/11/2018 – 24/11/2018	RIT Rajaramnagar
Data Science	Govt. residential womens polytechnic, Tasgaon under RUSA and SUK	14/05/2019 – 19/05/2019	RIT Rajaramnagar
Effective Teaching Learning and Outcome Based Education	RIT Rajaramnagar	04/11/2019 – 08/11/2018	RIT Rajaramnagar
Advanced Teaching Tools, Techniques and Methodologies for Outcome Based Education	AISSMS COE Pune	01/06/2020 – 05/06/2020	AISSMS COE Pune
Enhancing Research and Consultancy Skills	RIT Rajaramnagar	22/06/2020 – 26/06/2020	RIT Rajaramnagar
Effective Conduction of Online Lectures Using ICT Tools	RIT Rajaramnagar	06/07/2020 – 10/07/2020	RIT Rajaramnagar

AICTE - ATAL FDP on " Data Science for Societal Development"	RIT Rajaramnagar	16/09/2020 – 20/09/2020	RIT Rajaramnagar and AICTE
One Week Online Faculty Development Programme (FDP) Sponsored by TEQIP III, DBATU, Lonere on Machine Learning & Its Applications	SIT Yadrav	16/03/2021 – 20/03/2021	SIT Yadrav & TEQIP III, DBATU

- **Professional Membership:**
  - Computer Society of India, Pune chapter Member - N1081038
  - Life Member of ISTE – LM63040

- **Professional Activities:**
  - **Have given a Plenary talk at World Scientific and Engineering Academy and Society (WSEAS) 18th International Conference on ARTIFICIAL INTELLIGENCE, KNOWLEDGE ENGINEERING and DATA BASES (AIKED '18) at Murray Edwards College, University of Cambridge, UK (16th – 18th Feb. 2018)**
  - **Have worked as a session Chair for one of a IEEE executed Third International Conference on Big Data Computing Service and Applications, 7-10 April 2017 at San Francisco – U.S.**
  - Expert at STTP for Big Data Analytics
  - Worked as judge for Programming Contest/ Paper Presentations
  - Conducted & worked as Resource person for In-House Training programs
  - Worked as expert lecture at various colleges for DBE/SP/Java Programming
  - Delivered IUCEE three expert webinars on teaching-learning process
- **Posts held after appointment at this institution:**

Designation	Department	Date of actual Joining	
		From	To
H.O.D	CSE	5/7/2011	30/6/2015
Incharge H.O.D	CSE	15/11/2010	15/12/2010
Cultural Head, RIT	Institute level	01/01/2021	--
FN Coordinator	Institute level	Sept. 2019	--
DRC	CSE	01/07/2018	--
ED Mentor	CSE	01/07/2019	
TEQIPi/c coordinator(Dept)	CSE	12/08/2005	2009
R&D Incharge	CSE & IT	15/6/2010	15/12/2010
Lab. Incharge	CSE (L1 Lab.)	July 2007	4/7/2011

Co-ordinator for 2 University level programs	CSE & IT	Feb- 2010 & Feb - 2011	--

- **Google Scholar link:**

  https://scholar.google.co.in/citations?user=6-iHX-AAAAAJ&hl=en

Publications / Research Project

a) <u>**National Conference:**</u>
1. **e-Governance-** at National Conference, RTIT,2007, Shegaon
2. **ARP Cache poisoning - prevention & detection** – at SIES, Mumbai
3. **Improved Over_Sampling Techniques for Handling Imbalanced Big Data Set Classification** at National Level Research Symposium on Computing - RSC 2016 organized by dept. of CSE & IT under ACM chapter at WCE Sangli
4. **Handling of Class Imbalanced Problem in Big Data Sets: An Experimental Evaluation (UCPMOT)** at National Level Research Symposium on Computing - RSC 2017 organized by dept. of CSE & IT under ACM chapter at WCE Sangli (**ISBN:** 978-81-931546-8-7, Dec. 15-16, 2017.)
5. **Minority Majority Mix mean Over_Sampling Technique: An Efficient Technique to Improve Classification of Imbalanced Data Sets,** 3rd National Research Symposium on Computing - RSC 2018, pp. 19. **ISBN:** 978-81-937924-0-7, Dec. 21-22, 2018.
6. **Investigation of Imbalanced Big Data Set Classification: Clustering Minority Examples Over Sampling Technique,** 4th National Research Symposium on Computing - RSC 2019, Dec. 19-21, 2019.

b) <u>**International Conference**</u>:
1. **Biomedical Engg-** at International Conference FISAT ,Kerala
2. **The Server Reassignment Problem for Load Balancing in Structured P2P Systems –**at ACCEE, Kerala – ACT 2009.
3. **The Server Reassignment Problem for Load Balancing in Structured P2P Systems –**at ICFCA-Bangalore, Feb 2010. Published by IJCA.
4. **A least square approach to analyze usage data for effective web personalization** – at AET-ACS, Dec 2011**.**
5. **A Technique For Automatic Template Extraction From Heterogeneous Web Pages** – at 2013 IEEE International Conference on Computing, Communication and Networking Technologies - ICCCNT 2013.
6. **Interpretation of user intention via textual and visual resemblance Pages** – at 2013 IEEE International Conference on Computing, Communication and Networking Technologies - ICCCNT 2013.
7. **Automatic Generation of Emotions for Social Networking Websites using Text Mining** - at 2013 IEEE International Conference on Computing, Communication and Networking Technologies - ICCCNT 2013.
8. **Framework for Query Recommendation on Large Scale Web Graphs -** at 2013 Elsevier - ICCIIT 2013
9. **Technology Enhanced Teaching Learning using Palm Devices** – at BVB Hubli, ICTIEE 2014.

10. **Enabling Multilevel Trust Privacy Preserving Data Mining using Random Rotation Based Data Perturbation –** Second International Conference on "Emerging Research in Computing, Information, Communication and Applications" (ERCICA-14), Published by Elsevier.

11. **Computing Interesting Measures and Mining For Data Cube -** Second International Conference on "Emerging Research in Computing, Information, Communication and Applications" (ERCICA-14), Published by Elsevier.

12. **Extraction of Incremental Information Using Query Evaluator -** First International Conference on Networks & Soft Computing – ICNSC-14 , IEEE Xplore.

13. **A Hybrid Approach for Improving Web Document Clustering Based on Concept Mining - '**THIRD INTERNATIONAL CONFERENCE ON "EMERGING RESEARCH IN COMPUTING, INFORMATION, COMMUNICATION AND APPLICATIONS" - ERCICA-2015, Published by SpingerLink.

14. **Privacy Preserving for Spatio-Temporal Data Publishing Ensuring Location Diversity Using K- Anonymity Technique,** IEEE International Conference on Computer, Communication and Control (IC4-2015), Published by IEEE.

15. **Enhanced SMOTE Algorithm For Classification Of Imbalanced Big-Data Using Random Forest -**5th IEEE International Advanced Computing Conference (IACC 2015), BMSCE, Bangalore.

16. **Performance Evaluation of Categorizing Technical Support Requests using Advanced K-Means Algorithm** - 5th IEEE International Advanced Computing Conference (IACC 2015), BMSCE, Bangalore.

17. **Classification of Multiclass Imbalanced Big-Data – First** Rajarambapu Institute of Technology- National Conference for Post Graduate Students, 1st May 2015, RIT Rajaramnagar.

18. **Performance Evaluation of Clustering Technical Support Requests Using Modified Approaches in K-Means Algorithm -** First Rajarambapu Institute of Technology- National Conference for Post Graduate Students, 1st May 2015, RIT Rajaramnagar.

19. **Privacy Preserving for Location Diversity using K-Anonymization in Spatio Data - First** Rajarambapu Institute of Technology- National Conference for Post Graduate Students, 1st May 2015, RIT Rajaramnagar.

20. **Semantic Approach for Improving Web Document Clustering using K-means -** First Rajarambapu Institute of Technology- National Conference for Post Graduate Students, 1st May 2015, RIT Rajaramnagar.

21. **Improved Over_Sampling Techniques for Handling Imbalanced Big Data Set Classification,** National Research Symposium on Computing - RSC 2016, pp. 4-5. **ISBN:** 978-81-931456-1-8, Dec. 19-20, 2016.

22. **Enriched Over_Sampling Techniques for Improving Classification of Imbalanced Big Data -** IEEE Third International Conference on Big Data Computing Service and Applications, 7-10 April 2017, San Francisco – U.S.

23. **Predictive Statistics of Imbalanced Rainfall Data: Effect of MMMmOT on R Package (Forecast) - Using Hadoop Framework -** 5th International Conference on Advancement in Engineering, Applied Science and Management (ICAEASM-2017) at Institution Of Electronics and Telecommunication Engineers, Ganganagar, Bengaluru, Karnataka, India on 26th November 2017, ISBN: 978-93-87433-02-1, pp. 360-367

24. **Cluster based Under_Over Sampling Technique to Handle Imbalanced Big Data Set Classification,** Conference Proceeding of ICRTESM-2018 at Osmania University

Campus,Hyderabad, Telangana, India on 5th August 2018, ISBN: 978-93-87433-32-8, pp. 460-467.

25. **Driving Style Analysis Using Machine Learning Techniques: NMFNOST**, IEEE - International Conference on Electrical, Communication, Electronics, Instrumentation and Computing - (ICECEIC), Jan 2019, pp. 181.

26. **Improving Students Engagement Through Active Learning Strategies: Case study based Active Review Sessions and Skillathon**, ICTIEE 2020, Hyderabad, 5-7 Jan. 2020, pp. 24.

27. **Finger print based gender classification by using neural network model**, 5th International Conference on Computing in Engineering & Technology (ICCET 2020), Nanded 9-11 Jan. 2020.

28. **A review on summarization techniques: need for user specific summaries**, International Conference on Research and Developments in Engineering and Technology, Management and Sciences, Chennai, 22nd Dec. 2019, pp. 26.

29. **Development of an Personalized Adaptive Learning System to improve students learning performances,** Fifth National Research Symposium (RCS 2021), May 2021, pp.15.

30. **Analysis and prediction of crop yields underlying agricultural policies,** Fifth National Research Symposium (RCS 2021), May 2021, pp.19.

31. **Quality Circle: A Case Study on Automatic Token Generation System for RIT Library,** National Symposium on Enhancing Quality & Driving Change in Higher & Technical Education through NEP-2020, May 2021.

c) **International Journal :**
1. **A least square approach to analyze usage data for effective web personalization** – at IJCER, Sept 2011**.**
2. **A least square approach to analyze usage data for effective web personalization** – at IJCTA, Oct 2011**.**
3. Book chapter for book title: *Data Science and Big Data: An Environment of Computational Intelligence* published by Springer-Verlag on titled **"Enhanced Over_Sampling Techniques for Imbalanced Big Data Set Classification"** under the topic of interest – "Computational Intelligence", Vol.24, pp.49-81, 2017.
4. **Predictive Statistics of Imbalanced Rainfall Data: Effect of MMMmOT on R Package (Forecast) - Using Hadoop Framework -** Academic Science – International Journal of Innovations & Advancement in Computer Science(IJIACS), Volume 6, Issue 11, pp. 367-374, Nov. 2017. **ISSN**: 2347 – 8616, **DIIF Impact Factor Value** 2.65.
5. **Improved Classification of Large Imbalanced Data Sets Using Rationalized Technique: Updated Class Purity Maximization Over_Sampling Technique (UCPMOT),** Springer J Big Data (2017) 4: 49, 4:49 pp. 1-32, **ISSN:** 2196-1115, (Open Access, H-Index - 5, Scopus) **DOI:** https://doi.org/10.1186/s40537-017-0108-1
6. **Practice Based Closure Quality Loop Optimization in Teaching Learning Process: A Case Study in Software Engineering Design,** International Journal of Education and Learning Systems (IJELS), Volume 3, pp. 16-20, 2018 ISSN: 2367-8933
7. **Design of SMART(Secure, Multichannel, Adaptive, Real Time, Tiny) Gateway for Cyber Physical System,** International Journal of Computers (IJC), Volume 3, pp. 20-26, 2018 ISSN: 2367-8895
8. **Handling of Class Imbalanced Problem in Big Data Sets: An Experimental Evaluation (UCPMOT),** IJCSE, Volume-6, Special Issue-1, Feb 2018, pp. 1-9. **E-ISSN:** 2347-2693

9. Book chapter in book title: "Medical Big Data and Internet of Medical Things: Advances, Challenges and Applications" published by CRC Press, Taylor & Francis Group on titled **" Handling of Medical Imbalanced Big Data Sets for Improved Classification using Adjacent_Extreme Mix Neigbours Over-Sampling Technique (AEMNOST)",** Vol.1, pp.113-133, 2018. **eBook ISBN:** 9781351030373

10. **Cluster based Under_Over Sampling Technique to Handle Imbalanced Big Data Set Classification,** IJRECE, Volume 6, Special Issue-3, Sept. 2018, pp. 861-867. **E-ISSN (Print):** 2393-9028 **E-ISSN (Print):** 2348-2281 ((UGC Approved))

11. **Minority Majority Mix mean Over_Sampling Technique: An Efficient Technique to Improve Classification of Imbalanced Data Sets**, *AISC*, vol. 1025, no.1, pp. 501-510, 2019. DOI: https://doi.org/10.1007/978-981-32-9515-5_48, **ISSN:** 2194-5357.

12. **Clustering Data Streams Based on Shared Density Between Micro-Clusters: An Overview,** International Journal of Management, Technology And Engineering (IJMTE), Volume 1, Jun. 2019, pp.1-9, **ISSN:** 2249-7455.

13. **Improving Students Engagement Through Active Learning Strategies: Case study based Active Review Sessions and Skillathon,** JEET, Vol. 33, pp. 340-345, Jan. 2020, **ISSN:** 2394-1707.

14. **Investigation of imbalanced big data set classification: Clustering minority samples over sampling technique,** *AISC*, vol. 1162, pp. 299-310, Jun. 2019. **ISSN:** 2194-5357.

15. **Micro Clustering Methodology for Document Objects using Deep Learning Techniques**, International Journal of Engineering and Advance Technology, Vol. 1, pp. 1546-1152, Jan. 2020, **ISSN:** 2249-8958.

16. **Fingerprint-Based Gender Classification by Using Neural Network Model,** *AISC*, vol. 1155, pp. 318-325, Aug. 2020. **ISSN:** 2194-5357.

17. **Development of an Personalized Adaptive Learning System to improve students learning performances,** Turkish Journal of Computer and Mathematics Education, vol. 12, pp. 2339-2342, June. 2021. **ISSN:** 1309-4653.

18. **A Survey on Crop Yield Prediction using Machine Learning,** Turkish Journal of Computer and Mathematics Education, vol. 12, pp. 2343-2347, June. 2021. **ISSN:** 1309-4653.

d) **Research Project :**
1. Worked as a co-PI for In-house seed funding project of costing 37,000/- at RIT on "Ontology based information retrieval systems" in 2012-13.
2. Working as a co-PI for SU-Kolhapur, RIT research funding scheme – 2019 of costing 45,000/- at RIT on **Categorizing drivers for safety in road transport by supervising GPS based vehicle speed using enhanced over_sampling mining techniques**.
3. Worked as a PI for In-house seed funding project of costing 30,000/- at RIT on "**Drone based monitoring of non-build-up plot under municipal corporation**"

Projects & Seminars guided at M. Tech. level

1) An Approach towards Capturing user intension based on Visual and Textual Similarity

2) A Technique for Automatic Template Extraction From Heterogeneous Web pages

3) Framework for recommendation on large scale web graphs using Heat Diffusion

4) Automatic generation of emotions using text mining for social networking websites

5) Design & Analysis of Reconfigurable Platform for Frequent Pattern Mining

6) Data Extraction for Deep web using Wordnet

7) Micro Clustering Approach for Document Objects Using Machine Learning

8) Fingerprint based gender classification and age group estimation using neural network

9) Analysis And Prediction Of Crop Yields Using Aggregated Rainfall-based Module

10) Development of an Personalized Adaptive Learning System to improve students learning performances

Achievements

1) Awarded as "Distinguished Facilitator" by Infosys, Pune under Inspire faculty contest 2013.

2) Worked as BOS (Chairman) of CSE, Dept. – RIT Rajaramnagar.

3) Awarded for "Best Paper" at RSC 2017 and RSC 2019 at Walchand College of Engg., Sangli.

Strengths/Weakness/Hobbies

Strengths	Smart Worker, Quick Learner, Good group & People handling capacity, Honest, Good Teaching Skill, Passion to Excel
Weakness	To help others beyond certain required limits of expectations
Hobbies	Listening to music, Reading Books, Drawing, Programming

Personal Information

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Islampur, Tal-Walwa, Dist – Sangli, Maharashtra – 415409 (India)

Gender	Male.
Languages Known	Marathi, Hindi, English.
Email	sachin.patil@ritindia.edu

(Dr. Sachin S. Patil)